

**REMARKS/ARGUMENT****Regarding the Claims in General:**

Claims 10 and 20-39 are now pending. Independent claims 1, 11, and 12 have been canceled without prejudice and have been replaced by new claims 20, 36, and 38 respectively, to address the rejections in the outstanding Office Action. Also, independent claims 13, 16, and 18, as well as dependent claims 2-9, 14-15, 17, and 19 have been canceled without prejudice, and have been replaced by a new set of dependent claims 21-35, 37, and 39 to provide applicants with additional protection to which they appear to be entitled in light of the known prior art.

**Regarding The Allowable Subject Matter**

Applicants note with appreciation the indication that claims 10 and 15 would be allowed if rewritten in independent form incorporating the limitations of their respective parent claims. Claim 10 has been rewritten accordingly, but the Examiner's attention is directed to the fact that the limitation incorporated therein from claim 2 has been broadened to eliminate reference to the estimator. Nevertheless, because this limitation was not determinative of patentability, as indicated by the Examiner in his reasons for allowability in Section 4 of the Office Action, it is respectfully submitted that claim 10 remains allowable.

Claim 15 has not been retained, but the limitation forming the basis for allowability, again as indicated in Section 4 of the Office Action, now appears in claims 27, 37, and 39. As these claims are directly or indirectly dependent on claims 20, 36, and 38, which are believed to be allowable for the reasons stated below, claims 27, 37, and 39 are also believed to be allowable as presented.

**Regarding the Prior Art Rejections:**

In the outstanding Office Action, claims 1-9, 11-14, and 16-18 were rejected as anticipated by Telefus U.S. Patent 6,370,039 (Telefus). Upon consideration, it is believed that the Examiner will recognize that this rejection is not applicable to presently pending claims 20-39.

Preliminarily, it is noted that claim 19 has not been rejected, or indicated to be allowable. It will therefore be assumed that the Examiner intended to include this claim among those rejected.

Turning now to the substance of the rejection, The present invention is concerned with closely matching the input power drawn by a power delivery system with power consumed by a load to which the power delivery device is connected. A benefit of this is that an energy storage device used in the system, such as a bus capacitor, does not have to withstand energy fluctuations due to

input and output power mismatch, and can therefore have a lower power rating. This reduces both size and cost.

According to the invention, the objective is achieved by comparing a signal representative of the power input with a signal representative of the power output, and controlling the system to minimize the difference.

In contrast, Telefus is directed to an isolated power inverter in which the need to provide feedback for the control loop from the secondary side of the isolation transformer is avoided. This is said to simplify design and reduce parts count (see col. 1, lines 49-53). The control loop is driven by a first signal representing the difference between a voltage derived from the transformer primary current and a second voltage representing the maximum *expected* voltage losses at the transformer secondary. This is combined with a second signal representing an internal DC voltage (see col. 2, lines 4-11).

Telfus never mentions measurement of input or output power, or minimizing the difference between these operating parameters for the purpose of reducing power rating of passive components, or for any other purpose.

New claim 20 is patentable over Telefus in several important respects. In particular, claim 20 calls for:

a power control unit coupled to the power conditioning unit for controlling the amount of input power drawn by the power conditioning unit

a first sensor unit operative to provide a signal indicative of the input power drawn by the power control unit;

a second sensor unit operative to provide a signal indicative of output power delivered to the load by the power converter to the power control unit;

wherein the power control unit is operable in response to the signals from the first and second sensors to control the power conditioning unit to minimize the difference between the input power drawn by the input power conditioning unit and the power delivered to the load.

Telefus includes nothing which controls the *amount of power* drawn from the AC line. Instead, Telfus controls only the internal voltage.

Further, the only control signal which is related to the AC input is  $V_{int}$  provided from one of several suggested circuit locations. There is no signal directly related to power, or from which the amount of input power drawn can be calculated without additional information.

Likewise, in Telfus, the only control signal which is related to the output is a current sense voltage derived from the transformer primary current. There is no signal directly related to power, or from which the amount of power delivered to a load can be calculated without additional information.

Lastly, there is no disclosure, teaching, or suggestion in Telfus of a comparison of input and output power whereby the difference can be minimized.

Claim 20 is patentable over Telfus for all the above reasons.

New method claim 36 is generally similar to claim 20, and method claim 38 is similar to claim 36, except that it focuses on a method of reducing the power rating of a passive energy storage component in a power delivery system. Both of these claims are distinguishable from Telfus for the same reasons as given above.

Claims 21-35, are dependent on allowable claim 20, and claims 37 and 39 are respectively dependent on allowable claims 36 and 38. These claims are also allowable for the reasons stated above. In addition, these claim recite features which, in combination with the features of their respective parent claims are not disclosed, taught or suggested in Telfus.

In view of the foregoing, favorable reconsideration and allowance of this application are respectfully solicited.

I hereby certify that this correspondence is being transmitted by Facsimile to (703) 872-9306 addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

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